



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/026,877	12/27/2001	Makoto Yoshida	111580	9977

25944 7590 02/04/2005

OLIFF & BERRIDGE, PLC  
P.O. BOX 19928  
ALEXANDRIA, VA 22320

EXAMINER

OMETZ, DAVID LOUIS

ART UNIT	PAPER NUMBER
----------	--------------

2653

DATE MAILED: 02/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/026,877

**Applicant(s)**

YOSHIDA ET AL.

**Examiner**

David L. Ometz

**Art Unit**

2653

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 November 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 4-9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 10-16 is/are rejected.
- 7) ☒ Claim(s) 2,3 and 17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 11/19/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Art Unit: 2653

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/17/04 has been entered.
2. The information disclosure statement filed 11/19/04 has been considered. It is noted that the JP 62-128001 document has been lined through as already having been considered by the examiner as listed on the PTO-892 form of 2/3/04.
3. Claims 4-9 remain withdrawn from further consideration pursuant to 37 CFR 1.142(b).
4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 10, 11, 14-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Gill (US Pat 6381094). Gill shows a thin film magnetic head in figure 6 and figure 13 that includes:

As per claim 1, a thin film magnetic head comprising a slider on which is formed, at least one inductive type electromagnetic conversion element 70 and a thermal diffusion film 212, the inductive type electromagnetic conversion element including a first magnetic film P1, a second magnetic film P2, a gap film 102, a coil film 84 and an insulating film 88 which are supported by the slider, the forefronts of the first and the second magnetic films P1/P2 being opposed via the gap film 102 in the air bearing surface (ABS 48) side of the slider, and thereby, constituting a

Art Unit: 2653

pole portion the first magnetic film P1 being extended backward from the pole portion on the basis of the air bearing surface, the second magnetic film P2 being extended backward from the pole portion with keeping a given space for the first magnetic film, and being joined with the first magnetic film at a backward joining portion 96, the coil film 84 being embedded in the insulating film 88, and being wound spirally around the backward joined portion, the thermal diffusion film 212 being made of a metallic film (gold), and disposed in the heat transmission path from the coil film 84 toward the slider, which corresponds to a shortest path between the coil film and the slider, so as to radiate Joule heat created in the coil film via the slider.

As per claim 10, further comprising at least one magnetoresistive effective element 74 for reading.

As per claim 11, wherein the magnetoresistive effective element includes a spin valve film structure (see figure 11, "SV SENSOR").

As per claim 14, further comprising a first shielding film S1 and a second shielding film S2, wherein the magnetoresistive effective element 74 is disposed in between the first shielding film and the second shielding film, and the first shielding film is provided nearer the slider than the second shielding film, and the second shielding film is provided nearer the slider than the first magnetic film P1.

As per claim 15, a head supporting apparatus to support the thin film magnetic head (see figure 3, actuator 44/46).

As per claim 16, a magnetic disk driving device comprising a magnetic head device as defined in claim 15 and a magnetic disk 34 which is magnetically recorded and reproduced by the magnetic head device.

Art Unit: 2653

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 12, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gill. Gill shows a thin film magnetic head with a heat sink as noted, *supra*. However, Gill does not show wherein the magnetoresistive effective element is constructed of a ferromagnetic tunnel junction effective element or a giant magnetoresistive effective element with a perovskite type magnetic substance. The examiner takes Official Notice that the use of a ferromagnetic tunnel junction effective element or a giant magnetoresistive effective element with a perovskite type magnetic substance as the MR element in a combined magnetic head is old and well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the spin valve MR head taught by Gill with either a ferromagnetic tunnel junction effective element or a giant magnetoresistive effective element with a perovskite type magnetic substance as doing this would provide the head with excellent sensitivity to magnetic flux due to the superb magnetoresistive response to the change in resistance afforded by a ferromagnetic tunnel junction effective element or a giant magnetoresistive effective element with a perovskite type magnetic substance.

8. Claims 2, 3, 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Art Unit: 2653

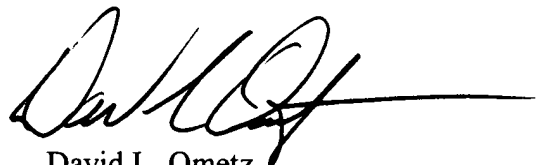
9. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection to Gill.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David L. Ometz whose telephone number is (703) 308-1296.

The examiner can normally be reached on M-W, 6:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (703) 305-6137. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



David L. Ometz  
Primary Examiner  
Art Unit 2653

DLO  
2/2/05